

External wall - awrohi01a-03

external wall, timber frame construction, not ventilated, with dry lining, with cladding, other surface

Performance rating

Fire protection performance
 REI from inside 60
 REI from outside 30
 maximum ceiling height = 3 m; maximum load $E_{d,fi} = 19,2 \text{ kN/m}$
 Classified by HFA

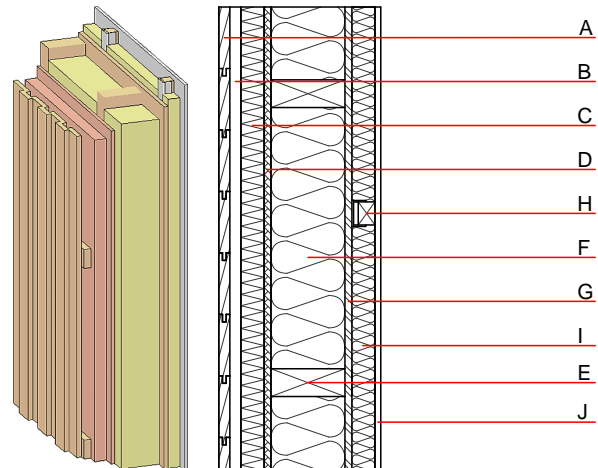
Thermal performance
 U 0.15 W/(m²K)
 Diffusion suitable

Calculated by HFA

Acoustic performance
 $R_w (C; C_{tr})$ 55(-3;-9) dB
 $L_{n,w} (C_i)$
 battens for the dry lining mounted offset without using resilient clips will result in $R_w(C; C_{tr})=52(-2;-7) \text{ dB}$
 Assessed by MA39

Mass per unit area m 73.90 kg/m²

Calculation based on GF



Note: e=625

Register of building materials used for this application, cross-section (from outside to inside, dimensions in mm)

	Thickness	Building material	Thermal performance				Reaction to fire EN
			λ	$\mu \text{ min - max}$	ρ	c	
A	24.0	larch wood external wall cladding	0.155	150	600	1.600	D
B	24.0	spruce wood cross battens	0.120	50	450	1.600	D
C	50.0	wood wool composite boards	0.090	2 - 5	370	2.000	B
D	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
E	200.0	construction timber (60/...; e=*)	0.120	50	450	1.600	D
F	200.0	mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$]	0.040	1	16	1.030	A1
G	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
H	40.0	spruce wood battens offset mounted on resilient clips	0.120	50	450	1.600	D
I	40.0	mineral wool [040; ≥ 16 ; $< 1000^\circ\text{C}$] or air layer in type 02	0.040	1	16	1.030	A1
J	12.5	gypsum fibre board or	0.320	21	1000	1.100	A2
J	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

013_{Kon} 30.4

Calculated by HFA

Details of sustainability rating

Database ecoinvent

Lifecycle (Phases)	GWP [kg CO ₂ -e.]	AP [kg SO ₂ -e.]	EP [kg PO ₄ -e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.151	0.065	2,68E-6	0.028	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	137.500	820.720	958.221	514.981	28.891	543.872